Amendments to the Claims

Claims 1-192 (Cancelled).

193. (New) A thin film of TixQyNz inhibiting metal diffusion from a metal-containing material and formed by sputtering a sputtering target in a nitrogen atmosphere wherein "Q" is a label for said one or more alloying elements; said target comprising Ti and one or more alloying elements having at least one of: (1) a standard electrode potential of less than about -1.0V; (2) a melting temperature of at least about 2400°C; and (3) at least an 8 percent difference in atomic radii relative to titanium.

194. (New) The thin film of claim 193 wherein the metal-containing layer comprises copper.

195. (New) The thin film of claim 193 wherein x=0.1-0.7, y=0.001-0.3, and z=0.1-0.6.

196. (New) The thin film of claim 193 having a thickness of from about 2 nm to about 50nm.

197. (New) The thin film of claim 193 further comprising an electrical resistivity of equal to or less than 300 $\mu\Omega$•cm.

198. (New) The TixQyNz thin film of claim 193 used as a Cu barrier layer in a microelectronic device.

199. (New) The thin film of claim 193 further comprising a mean grain size of equal to or less than 100 nm, the mean grain size remaining equal to or less than 100 nm after the thin film is exposed to a temperature of at least about 500°C for a time of at least about 30 minutes in a vacuum anneal.

200. (New) The thin film of claim 193 further comprising a mean grain size of equal to or less than 10 nm, the mean grain size remaining equal to or less than 10 nm after the thin film is exposed to a temperature of at least about 500°C for a time of at least about 30 minutes in a vacuum anneal.

201. (New) The thin film of claim 193 further comprising a mean grain size of equal to or less than 1nm, the mean grain size remaining equal to or less than 1nm after the thin film is exposed to a temperature of at least about 500°C for a time of at least about 30 minutes in a vacuum anneal.

202. (New) A semiconductor construction comprising:

a semiconductor substrate;

a material supported by the semiconductor substrate, and into which diffusion of a metal is to be alleviated;

a mass over the material and comprising the metal;

an intervening layer comprising the thin film of claim 193; the intervening layer being between the mass and the material into which diffusion of the metal is to be alleviated; and

the intervening layer alleviating diffusion of the metal from the mass to the material relative to an amount of diffusion that would occur without the intervening layer.

203. (New) A thin film of TixQyNzOw inhibiting copper diffusion from a copper-containing material and formed by sputtering a sputtering target in a nitrogen atmosphere wherein "Q" is a label for said one or more alloying elements; said target comprising Ti and one or more alloying elements having at least one of: (1) a standard electrode potential of less than about -1.0V; (2) a melting temperature of at least about 2400°C; and (3) at least an 8 percent difference in atomic radii relative to titanium.

204. (Previously presented) The thin film of claim 203 wherein x=0.1-0.7, y=0.001-0.3, z=0.1-0.6, and w =0.0001-0.0010.